

REMARKS

Claims 13, 14, and 17-24 are pending in the application. Claim 13 has been amended to incorporate the subject matter of claims 15 and 16, which have been canceled without prejudice. Claims 17, 19, and 23 have been amended to correct claim dependencies. The amendments are fully supported by the application as originally filed.

Applicant's claimed invention recites a processor system with an instruction executing means including at least a first executing unit connected to a first data bus, and a second executing unit connected to a second data bus with a higher transmission rate than the first data bus.

As amended, independent claim 13 recites that the first executing unit is designed to execute all types of instructions of the processor system, while the second executing unit is designed to execute only one special type of instructions.

The claimed combination of two executing units with two data buses having different transmission rates can provide significant benefits. In particular, the second executing unit is structured as simply as possible to execute only one particular (special) type of instructions, while the first executing unit can execute all possible functions or types of instructions provided by the processor system. More specifically, the second executing unit may execute a frequently used type of instruction, e.g., a data block movement instruction, which must be executed quickly (see, e.g., specification at page 6, last paragraph to page 7, first paragraph). According to the Applicant's claimed invention, different types of instructions can be executed in parallel, and the one special type of instructions can be executed at maximum speed.

Claims 13-16 and 20-24 were rejected under 35 USC §103(a) as being unpatentable over U.S. Patent 5,559,986 to Alpert et al. (hereinafter "Alpert") in view of U.S. Patent 5,841,771 to Irwin et al. (hereinafter "Irwin"). Claims 17 and 18 were rejected under 35 USC §103(a) as

being unpatentable over Alpert in view of Irwin, and further in view of U.S. Patent 4,196,470 to Berg. These rejections are respectfully traversed.

Applicant's arguments in the response filed on April 6, 2005 are incorporated by reference herein.

In the Final Office Action of 06/13/2005, the Examiner referred back to the Office Action of 01/06/2005. In the Office Action of 01/06/2005, regarding the rejection of claims 15 and 16 (which have been incorporated into claim 13), the Alpert reference was cited for allegedly teaching:

"a first execution unit [203] from executing all possible instructions [integer instructions] and a second execution unit [205] for execute only a few instructions (floating point instructions, see col.5, lines 37-50)."

However, even if the execution pipelines 203 and 205 of Alpert which execute integer instructions and floating-point instructions, respectively, are considered a "first executing unit" and a "second executing unit," there is no teaching or suggestion that one of these execution pipelines in Alpert executes **only one special type** of instructions, while the other execution unit executes **all types** of instructions.

As amended, claim 13 specifically requires that "the first executing unit ... is designed to execute all types of instructions of a set of instructions of the processor system, while the second executing unit is designed to execute only one special type of instructions of the instruction set of the processor system."

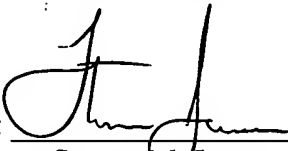
In other words, according to claim 13, the second executing unit is restricted to executing only one special type of instructions, which is only a single type of the instructions executable by the first executing unit. There is no teaching or suggestion of the claimed arrangement of executing units in Alpert, Irwin, or any other cited references.

For at least the reasons discussed above, the proposed combination of Alpert in view of Irwin does not teach or suggest the Applicant's claimed invention. Therefore, independent claim 13 and claims depending therefrom are patentable over the proposed combination.

It is believed the application is in condition for immediate allowance, which action is earnestly solicited.

Respectfully submitted,

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